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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,798

10/30/2006

Haijun Wu

HW253556

6035

23460 7590 01/07/2010
LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER

CLAWSON, STEPHEN J

ART UNIT

PAPER NUMBER

2461

NOTIFICATION DATE

DELIVERY MODE

01/07/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Chgpatent@leydig.com
Chgpatent1@leydig.com

Office Action Summary	Application No. 10/585,798	Applicant(s) WU, HAIJUN	
	Examiner STEPHEN J. CLAWSON	Art Unit 2461	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 10-13 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 8 and 10-13 are allowed. The following is a statement of reasons for the indication of allowable subject matter: claim 8, lines 11-14, the prior art does not disclose 'detecting whether a service from a network interface is the video service stream by the main control board; if it is, transmitting to each subscriber interface board through the video bus in the DSLAM, otherwise transmitting it through a data bus.'

Response to Arguments

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 2 is objected to because of the following informalities:

Applicant claims in lines 1-2, '...wherein the DSLAM further comprises a multicasting distributor module...' Then Applicant claims in line 2 '...the main control board comprises...' A transitional phrase connecting the elements in somehow appears to be missing from the claim. That is Applicant claims a DSLAM further comprising a multicasting distributor and then abruptly states the main control board comprises. Perhaps Applicant could reword the phrasing of the discussed lines of claim 2. For example, inserting the words 'and wherein' between 'module;' and 'the main control board' could help the readability of claim 2. However, this is merely one suggestion

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among many possibilities. Applicant is free to amend in any manner that improves the readability. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, claim 4 recites the limitation "the data processing module" in line 3. Although Applicant refers to "...a data processing module in the main control board..." in claim 2, lines 2-3, Applicant has not introduced "...a data processing module in each subscriber interface board..." as recited in claim 4, line 3. There is insufficient antecedent basis for this limitation in the claim. Appropriate action is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1, 2, 4, and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (2003/0099239), and further in view of Vu (2004/0202162).

Regarding claim 1, Kim discloses a bandwidth expanded Digital Subscriber Line Access Multiplexer (DSLAM) for multicasting video service, comprising:

a main control board, **(See Kim fig. 4 'MCU' Main controller unit)** subscriber interface boards **(See Kim Fig. 4, 'ATU' ADSL Transceiver Unit; 'STU' SHDSL Terminal Unit; 'VTU' VDSL Terminal Unit; 'LTU' LAN Terminal Unit)** and a data bus which is connected between the main control board and each of the subscriber interface boards; **(See Kim Fig. 4 '180', '181', '182', '183', and '184')**

wherein the DSLAM further comprises a video bus which is connected between the main control board and each of the subscriber interface boards, and wherein the video bus **(See Kim Fig. 4 '180', '181', '182', '183', and '184') (Kim para. 52 and para. 91; Multiple bus lines are used to transmit data including video.)**

Kim does not explicitly disclose wherein the video bus is a unidirectional bus transmitting the video service stream from the main control board to the subscriber interface board. However, Vu does disclose wherein the video bus is a unidirectional bus transmitting the video service stream from the main control board to the subscriber interface board. **(See Vu para. 23, lines 1-6; unidirectional bus 2) multicast bus (i.e. video bus)** Therefore it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify the DSLAM of Kim to include a unidirectional bus of Vu with the motivation being to increase the speed of data transfer for

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asynchronous data applications where a large portion of data is transmitted in one direction such as broadcast/multicast video.

Regarding claim 2, the combination discloses the bandwidth expanded DSLAM according to claim 1, wherein the DSLAM further comprises a multicasting distributor module; **(See Kim fig. 6, 114 and 115 Cell Router (i.e. multicasting distributor module))** the main control board comprises a data processing module **(See Kim fig. 6, 112, UNI (i.e. data processing module))** and a control module **(See Kim fig. 6, 113 Cell Processor (i.e. control module))** connected with the data processing module; the data processing module outputs the video service stream to an input of the multicasting distributor module, **(See Kim fig. 6)** and an output of the multicasting distributor module is connected to the video bus. **(See Kim fig. 6, 180 and/or 181 (i.e. video bus))**

Regarding claim 4, the combination discloses the bandwidth expanded DSLAM according to Claim 2, wherein the video bus is a shared bus where the output of the multicasting distributor module is connected to the data processing module **(See Kim fig. 8, ATU CPU (i.e. data processing module)) in each subscriber interface board (See Kim fig. 8, 140 (i.e. subscriber interface board) See also fig. 4 '140) in parallel; (See Kim fig. 4, 180, 181, 182, 183, 184 are all in parallel and connected to the subscriber interface boards in parallel)** the multicasting distributor module is used for directly driving the inputted video service stream to each subscriber interface board. **(See Kim fig. 6, 114 and 115 Cell Router (i.e. multicasting distributor module))**

Regarding claim 5, the combination discloses the bandwidth expanded DSLAM according to claim 1, wherein the video bus comprises one set of bus or multiple sets of buses (**Fig. 4 '180', '181', '182', '183', and '184'**) carrying different video channels of the video service stream. **(Kim para. 52 and para. 91; Multiple bus lines are used to transmit data including video.)**

Regarding claim 6, the combination teaches the bandwidth expanded DSLAM according to claim 1, wherein the video bus is Gigabit Ethernet (GE) bus or Cell bus. **(See Kim para. 87, fig. 4; '180' and '181' is a cell bus.)**

8. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (2003/0099239), and further in view of Vu (2004/0202162) and further in view of Applicant's own admissions. (See MPEP 2129).

Regarding claim 3, the combination discloses the bandwidth expanded DSLAM according to claim 2. The combination does not disclose wherein the video bus is point-to-point star bus. However, Applicant admits the use of a point-to-point star bus in a DSLAM where the output of the multicasting distributor module is respectively connected to a data processing module in each subscriber interface board; the multicasting distributor module is used for duplicating the inputted video service stream and outputting to each subscriber interface board, respectively. **(Applicant fig. 3)**

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify the DSLAM of Kim and Vu with a point-to-point star bus of Applicant's admitted prior art with the motivation being that this configuration is already well known in the art (and admitted by Applicant) and provides more reliability by preventing the whole device from failing when one of the point-to-point connections fails and further provides increased bandwidth and thus allows for a high level of customer service and experience.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN J. CLAWSON whose telephone number is (571)270-7498. The examiner can normally be reached on M-F 7:30-5:00 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry H. Levitan/
Primary Examiner, Art Unit 2461

/STEPHEN J. CLAWSON/
Examiner, Art Unit 2461